

We claim:

1. A combination grapple rake and subsoiling implement adapted for pivotal attachment to an excavating machine, comprising:

- (a) a frame;
- (b) a rake securely attached to said frame; and
- (c) at least one shank socket affixed to said frame, said socket adapted to receive and secure a subsoiling shank having a substantially pointed earth-working end, and wherein said socket is further adapted to orient said shank in an operating position when the rake is substantially parallel to the ground.

2. The grapple rake of Claim 1, wherein said shank socket is adapted to receive at least one removable fastener for securing said subsoiling shank within said socket.

3. The grapple rake of Claim 1 having two of said shank sockets.

4. The grapple rake of Claim 1 and further comprising a coulter blade adjacent to said shank socket.

5. The grapple rake of Claim 1, and further comprising a subsoiling shank secured within said shank socket.

6. The grapple rake of Claim 5, wherein said subsoiling shank lies substantially in a plane and comprises at least one wing perpendicular to said plane.

7. The grapple rake of Claim 5 and further comprising a coulter blade adjacent to said shank socket and positioned between said subsoiler shank and said rake.

8. A method for conducting dissimilar soil management activities above and beneath the surface of the soil, comprising:

- a. providing a combination grapple rake and subsoiler implement comprising a grapple rake and a subsoiler shank having an earth-working end, wherein said grapple rake and said earth-working end are disposed with respect to one another such that when the grapple rake is in an operable position for conducting a grapple rake activity, then the earthworking end for conducting a subsoiling activity is in an idle position, and *vice versa*;
- b. operating said implement to employ said subsoiler shank to penetrate the soil to a predetermined depth and moving the earth-working end through said soil along a path in a plane beneath, and generally parallel to, the soil surface to thereby loosen the soil beneath said surface; and
- c. operating said implement to employ said rake to move material over the surface of said loosened soil.

9. The method of Claim 8, wherein said plane is below a zone of soil compaction.

10. The method of Claim 8, wherein said material is organic material.

11. The method of Claim 8, wherein said combination grapple rake and subsoiler implement further comprises a coulter blade, and the method includes operating said implement against organic debris so as to shear said debris with said coulter blade.

12. The method of Claim 8, wherein said soil has a zone of hardpan or other compaction and said path is at a depth below said zone.

13. A method for preparing an area having soil compaction for reforestation in a single pass of heavy equipment over said area with an implement, comprising the steps of:

- a. providing a combination grapple rake and subsoiler implement comprising a grapple rake and a subsoiler shank having an earth-working end, wherein said grapple rake and said earth-working end are disposed with respect to one another such that when the grapple rake is in an operable position for conducting a grapple rake activity, then the earthworking end is in an idle position for conducting a subsoiling activity, and *vice versa*;
- b. operating said implement to employ said subsoiler shank to penetrate the soil in said area to a predetermined depth and moving the earth-working end through said soil along a path in a plane beneath, and

generally parallel to, the soil surface to thereby loosen the soil beneath said surface; and

- c. operating said implement to employ said rake in said area to move material over the surface of said loosened soil.

14. The method of Claim 13, wherein said area of reforestation is selected from the group consisting of a road, a temporary road, a skid trail, a landing and a legacy compaction area.